UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/757,971	01/10/2001	Kamal Emile Dimitri	TUC920000072 US1	8350

7590 03/08/2005

Dale F. Regelman
Law Office of Dale F. Regelman
4231 S. Fremont Avenue
Tucson, AZ 85714

EXAMINER	
SHAPIRO, JEFFERY A	

ART UNIT	PAPER NUMBER
3653	

DATE MAILED: 03/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/757,971	DIMITRI ET AL.	
	Examiner	Art Unit	
	Jeffrey A. Shapiro	3653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 January 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 December 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Motoyama et al (6,022,180) in view of Kanetsuku et al (US 6,449,223 B1), further in view of Ostwald (US 6,262,863 B1) and still further in view of Mobley (US 6,123,029). Motoyama discloses the following.

As described in Claims 1, 10, 11, 19 or 23;

a. an automated data storage system for storing and accessing a plurality of data storage media stored in a plurality of storage slots, said automated data storage system having at least one data storage drive for receiving said data storage media and reading and/or writing data thereon (see abstract, for example);

b. a first media storage library (4) having a first rail system (8);

c. one or a plurality of accessors (7) for accessing and transporting said data storage media between said storage slots and said data storage drive;

d. said one or a plurality of accessors is moveably disposed on the first rail system or on said movable rail system;

e. said one or a plurality of accessors comprise a vertical pillar (7c), a lifting servo section (7k) movably disposed on said lifting servo section;

As described in Claims 2 and 20;

f. said first rail system further comprises a proximal end and a distal end (note that said rails of said first rail system have two ends);

g. said movable rail system further comprises a first end and a second end (note that said rails of said movable rail system have two ends);

As described in Claims 7 and 16;

h. said garage further comprises one or a plurality of doors (note that it would be obvious to provide a set of doors on said garage so as to provide access to the movable rail systems and accessors for maintenance as well as to keep the system free from contamination);

Motoyama does not expressly disclose, but Ostwald discloses the following.

As described in Claims 1, 10, 11, 19 or 23;

i. a garage (2 or 3) disposed adjacent said first media storage library, said garage having a (movable) rail system (8) disposed therein;

3a. a second rail system comprising two parallel sets of rails, wherein each set of rails is disposed along a third axis, wherein that third axis is perpendicular to both said first axis and said second axis.;

As described in Claims 2 and 20;

j. said first end can be positioned to be substantially collinear with said proximal end such that said one or a plurality of accessors can move between said first rail system and said movable rail system (note that the ends of rails of the movable rail system can be moved adjacent to a set of non-movable rails from the first system—see figure 1 of Ostwald);

As described in Claims 3, 12, 21 and 24;

k. said movable rail system further comprises a first positioning apparatus disposed on said first end and a second positioning apparatus disposed on said second end (note that motors (see Ostwald, elements (111-113) combined with a belt and pulley at the other end of a movable rail system provides positioning capability for the movable rails—note also that these ends can also be construed as the first and second ends recited in Claims 2 and 20);

As described in Claims 4 and 13;

l. said movable rail system comprises two parallel rails (see Ostwald, elements (125 and 126));

As described in Claims 5 and 14;

m. said movable rail system comprises a plurality of paired parallel rails, wherein each of said paired parallel rails has a first end and a second end (see figure 1 of Ostwald, noting that the rails of one elevator system are located next to a second set of moving rails located on the other elevator system. Note also that it would be obvious to provide

several pairs of rails driven by one motor/pulley drive system—the reason would be to provide greater movement capacity and throughput. Note also that having one single rail pair access several stationary pairs of rails is a functional equivalent of Applicants' moving rail system where multiple rails move to meet an apparent single pair of rails);

As described in Claims 6, 15 and 22;

n. each of said pairs of parallel rails further comprises a first positioning apparatus disposed on its first end and a second positioning apparatus disposed on its second end (note that the pairs of parallel rails of Ostwald et al are considered to be functional equivalents of Applicants' positioning apparatus and movable rails and that the motor (111) is construed as a first positioning apparatus and that (112 and 113) are construed as a second positioning apparatus);

As described in Claims 8 and 17;

o. said first and second rail systems comprises two parallel rails (see Ostwald, figure 1);

As described in Claims 9 and 18;

p. one or a plurality of movable media storage devices (see Ostwald, figure 1, element (102));

Note that Ostwald appears to further read on applicant's independent claims as follows;

A movable rail system (140) comprising a plurality of movable sets of rails, wherein each movable set of rails can be moved bidirectionally along a third axis, wherein said third axis is perpendicular to both said first axis and said second axis. (Note that the third axis is up and down with respect to the vertical column of the and that the stationary rails (121) allow movement perpendicular to the direction in which the movable rails move, and that a third axis exists along which the cartridge picker moves in and out of the storage cell along another functionally equivalent movement axis.)

Ostwald further discloses a first media storage library (101) comprising a set of rails (121, 122) disposed along a first axis , a garage (131, 132, 133), said garage having a movable rail system (141a and 141b), plural accessors (102)

Motoyama does not expressly disclose, but Kanetsuku discloses the following.

As described in Claims 7 and 16;

q. said garage further comprises one or a plurality of doors;

Motoyama does not expressly disclose, but Mobley discloses, as described in Claims 1, 10, 11, 19 or 23;

a movable set of rails, wherein said movable set of rails can be moved bidirectionally along said second rail system to be substantially colinear with said first

rail system such that one or more accessors can be moved between said first rail system and said movable rail system; See Mobley, figures 18-22 and col. 9, line 65-col. 11, lines 16.

Motoyama et al, Kanetsuku and Ostwald et al are considered to be analogous as they both concern the data media library accessing and storing art.

Motoyama and Mobley are considered analogous because Motoyama concerns an automated data storage system with a rail on which a robot pick device moves and Mobley concerns a rail system with a set of tracks that move horizontally in order to reroute transporters from one set of tracks to another.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to have added a garage, a second rail system, plural media storage devices, said first and second rail systems having two parallel rails, as taught by Ostwald, and described previously.

It would also have been obvious to provide a garage that encompassed said movable rail system adjacent said media library so as to provide a place for an accessor to reside in Motoyama's system—see Ostwald et al, abstract, lines 5-9 and 14-*end

The suggestion/motivation would have been to allow the switching of the robots (7) of Motoyama et al to another rail servicing another library unit.

The suggestion/motivation for adding a second rail system would have been to use a system of rails that route media robots throughout the system and reducing the

need for guide/steering systems that add weight to the robots. See Ostwald, abstract lines 5-9.

The suggestion/motivation for adding plural media storage devices is to increase media throughput and capacity. See figure 8 of Ostwald, which illustrates multiple media storage devices and suggests to one ordinarily skilled in the art to increase capacity by adding storage devices.

The suggestion/motivation for adding a second rail is to maintain stability of the robot as it moves. See col. 5, lines 17-21.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to have added a plurality of doors to Motoyama's garage, as taught by Kanetsuku.

Note that it would have been obvious to provide a set of doors on Motoyama's garage.

The motivation/suggestion would have been to provide access to the movable rail systems and accessors for maintenance as well as to keep the system free from contamination and to keep operators and personnel away from pinch points, as mandated by OSHA regulations)

At the time of the invention, it would have been obvious to one of ordinary skill in the art to have caused the second rail system to move in a third axis horizontally and

perpendicular to the rails of the first rail system, as taught by Mobley, and described above.

The suggestion/motivation would have been to allow the switching of the robots (7) of Motoyama et al to another rail servicing another library unit. See Mobley, abstract, last five lines.

Response to Arguments

3. Applicant's arguments with respect to Claims 1-24 have been considered but are moot in view of the new ground(s) of rejection.

Motoyama discloses a basic media storage system with two robots (7) for moving media throughout the system, in Applicant's x-direction (see Applicant's figure 10). Note also that the robots of Motoyama have power sources and controllers which can be construed as servo or other types of motors which will move the accessor/robots (7) in three axis', X, Z and Y (into and out of an individual media storage area. See col. 6, lines 35-37 of Motoyama.

Ostwald discloses using two rails, one on the bottom, as Motoyama illustrates in figure 2, element (8) and one on the top, as illustrated in Ostwald at figure 1, elements (121 and 122), so as to maintain stability in the vertical and horizontal directions (Applicant's x and z directions). Motoyama's robots would appear to also require stability so as to be more accurate. Therefore, it would be logical for one ordinarily

skilled in the art to look to Ostwald to provide the teaching for using a second rail to maintain stability of the robots as they move.

Ostwald also provides the teaching for using multiple media storage systems and for using a mating track (125, 126), called by Applicant as a second set of rails, for moving the robots from one set of rails to the other in a data media storage environment.

Ostwald does not teach away from Motoyama as the teachings of Ostwald used concern the concepts of stability of robot movement using a second rail in a first rail system, grouping multiple media storage systems to increase capacity, and using a second set of rails to aid in routing robots throughout the media storage system. These are all problems which one ordinarily skilled in the art would look to Ostwald to solve for use in Motoyama's system.

Mobley discloses further, rerouting rail traveling vehicles from one set of rails to another by moving the second set of rails in the horizontal direction (a third axis of movement, in Applicant's y direction).

Additionally, Kanetsuku teaches using doors for access to a data media storage garage. As described above, the motivation for doing the same in Motoyama's system would have been to protect the system from outside elements and to protect operators from pinch points, as mandated by OSHA regulations.

Using the teaching of Ostwald and Mobley, it would have therefore been obvious to one of ordinary skill in the art to have obtained Applicant's claimed apparatus.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey A. Shapiro whose telephone number is (703)308-3423. The examiner can normally be reached on Monday-Friday, 9:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald P. Walsh can be reached on (703)306-4173. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jeffrey A. Shapiro
Examiner
Art Unit 3653

March 5, 2005

DONALD P. WALSH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600